

AMENDMENTS TO THE CLAIMS

Claim 1 (Cancelled)

2. (Currently Amended) A process as defined in claim 35, ~~wherein~~ ~~4~~, ~~characterised~~ ~~in that~~ the filler is treated with inorganic colloidal particles so that the surface of the filler particles will at least partly consist of inorganic colloidal particles.

3. (Currently Amended) A process as defined in claim ~~1~~ ~~or~~ ~~2~~, ~~characterised in that~~ wherein the filler is pre-treated with inorganic anionic colloidal particles.

4. (Currently Amended) A process as defined in claim 3, ~~characterised in that~~ wherein the anionic colloidal particles consist of synthetic silicate and/or hectorite.

5. (Currently Amended) A process as defined in claim 3, ~~characterised in that~~ wherein the anionic colloidal particles consist of smectite or montmorillonite-based (bentonite)silicate.

6. (Currently Amended) A process as defined in claim 3, ~~characterised in that~~ wherein the anionic colloidal particles consist of colloidal silica sol and/or polysilicic acid.

7. (Currently Amended) A process as defined in claim 3, ~~wherein~~ ~~3~~ ~~or~~ ~~4~~, ~~characterised in that~~ the anionic colloidal particles consist of colloidal metal silicate pertaining to synthetic silicates and having preferably magnesium as the predominant cation.

8. (Currently Amended) A process as defined in ~~any of the preceding claims, characterised in that~~ claim 35, wherein, the inorganic colloidal particles have an average particle diameter in the range of 1-80 nm, preferably in the range of 1-50 nm, most advantageously in the range of 1-25 nm.

9. (Currently Amended) A process as defined in ~~any of the preceding claims, characterised in that~~ claim 35, wherein the powder formed of inorganic colloidal particles has a specific area (BET) in the range of 30-1,000 ~~m²/g~~, m²/g and preferably in the range of 100-1,000 m²/g.

10. (Currently Amended) A process as defined in ~~any of the preceding claims, characterised in that~~ claim 35, wherein the filler is pre-treated with inorganic colloidal particles in an amount varying in the range of 50-10,000 ~~g/t~~, g/t and preferably in the range of 500-5,000 g/t, calculated on the total amount of dry filler.

11. (Currently Amended) A process as defined in ~~any of the preceding claims, characterised in that~~ claim 35, wherein the entire filler amount intended for the stock is pre-treated with inorganic colloidal particles.

12. (Currently Amended) A process as defined in ~~any of the preceding claims, characterised in that~~ claim 35, wherein only a portion of the filler amount intended for the stock is pre-treated with inorganic colloidal particles, while the other portion preferably is in an aqueous suspension of cellulose.

13. (Currently Amended) A process as defined in claim 12, ~~characterised in that~~ wherein the weight proportion of inorganic colloidal particles in the total weight of these

14. (Currently Amended) A process as defined in ~~any of the preceding claims,~~
~~characterised in that~~ claim 35, wherein the filler is treated by combining a slurry or a sol of
inorganic colloidal particles and a filler slurry.

15. (Currently Amended) A process as defined in claim 14, ~~characterised in that~~
~~wherein~~ the slurry or sol of inorganic colloidal particles has a concentration of ~~0.5-30%,~~ 0.5-30%
and preferably 1-10%.

16. (Currently Amended) A process as defined in ~~any of the preceding claims,~~
~~characterised in that~~ claim 35, wherein the filler is an inorganic particulate substance.

17. (Currently Amended) A process as defined in claim 16, ~~characterised in that~~
~~wherein~~ the inorganic particulate substances ~~is~~ are selected ~~in~~ from the group comprising
consisting of kaolin, calcinated kaolin, calcium carbonate, talcum, titanium dioxide, calcium
sulphate, synthetic silicate and aluminium hydroxide fillers and mixtures of these.

18. (Currently Amended) A process as defined in claim 17, ~~characterised in that~~
~~wherein~~ the inorganic particulate substance is titanium dioxide.

19. (Currently Amended) A process as defined in claim 18, ~~characterised in that~~
~~wherein~~ the titanium dioxide has an average particle diameter in the range of ~~150-350 nm,~~ nm
and more advantageously approx. 200 nm.

20. (Currently Amended) A method as defined in ~~any of the preceding claims,~~
~~characterised in that claim 35, wherein~~ the total amount of filler accounts for ~~10-60%,~~ 10-60%
and preferably 20-50%, of the total amount of the dry weight of the stock.

21. (Currently Amended) A method as defined in ~~any of the preceding claims,~~
~~characterised in that claim 35, wherein~~ the aqueous filler slurry has a concentration of ~~5-70%,~~
5-70% and preferably 20-50%.

22. (Currently Amended) A method as defined in ~~any of the preceding claims,~~
~~characterised in that claim 35, wherein~~ the cellulose of the aqueous suspension of cellulose
originates from chemical, mechanical or chemo-mechanical pulp, recycled ~~fibres~~ fibers or a
mixture of these.

23. (Currently Amended) A method as defined in ~~any of the preceding claims,~~
~~characterised in that claim 35, wherein~~ the aqueous suspension of cellulose has a consistency in
the range of ~~1-50 g/l,~~ g/l and preferably in the range of 5-15 g/l.

24. (Currently Amended) A method as defined in ~~any of the preceding claims,~~
~~characterised in that claim 35, wherein~~ the aqueous slurry is combined with an aqueous
suspension of cellulose to form a stock having a total consistency in the range of ~~3-20 g/l,~~ g/l and
preferably 5-15 g/l, g/l and most advantageously 7-13 g/l.

25. (Currently Amended) A method as defined in ~~any of the preceding claims,~~
~~characterised in that claim 35, wherein~~ the cationic retention agent is a cationic polymer having
a molecular weight of at least 500,000 g/mol, ~~preferably at least 1,000,000 g/mol.~~

26. (Currently Amended) A method as defined in claim 25, ~~characterised in that~~ wherein the cationic polymer is cationic starch or a copolymer of acrylamide and a cationic comonomer.

27. (Currently Amended) A method as defined in claim 26, ~~characterised in that~~ wherein the copolymer of acrylamide and the cationic comonomer is a copolymer of acrylamide and acryloyloxyethyltrimethyl ammonium chloride having ~~preferably~~ a molecular weight above 500,000 g/mol.

28. (Currently Amended) A method as defined in any of claims 25-27, ~~characterised in that~~ wherein the amount of cationic polymer is in the range of 25-10,000 ~~g/t~~ g/t and preferably in the range of 50-1,000 g/t of dry matter of said stock.

29. (Currently Amended) A method as defined in ~~any of the preceding claims,~~ ~~characterised in that~~ claim 35, wherein the stock is treated with anionic colloidal particles, which may be identical to or different from said inorganic colloidal particles used for filler pre-treatment.

30. (Currently Amended) A method as defined in ~~any of the preceding claims,~~ ~~characterised in that~~ claim 35, wherein the stock is filtered through a steel wire having 100-300 mesh apertures to form paper.

31. (Currently Amended) A method as defined in ~~any of the preceding claims,~~
~~characterised in claim 35, including~~ the use of other paper-improving agents, and preferably
other retention chemicals, size, dies and ~~fibre~~ fiber binders.

Claims 32-34 (Cancelled)

35. (New) A process for the manufacturing of paper, comprising the steps of:
pre-treating a filler with inorganic colloid particles having an average particle size in
water of less than 100 nm,
suspending the pretreated filler to form an aqueous slurry,
combining the aqueous slurry with an aqueous suspension containing cellulose fibers to
form a stock, characterized by the steps of:
treating the formed stock at least with a cationic retention agent which is a cationic
polymer having a molecular weight of at least 500,000 g/mol, and
filtering and drying the treated stock to form said paper.

36. (New) A process for the manufacturing of paper, comprising the steps of:
pre-treating titanium dioxide with inorganic colloid particles,
suspending the pretreated titanium dioxide to form an aqueous slurry,
combining the aqueous slurry with an aqueous suspension containing cellulose fibers to
form a stock, characterized in that the titanium dioxide is pretreated with colloidal metal silicate
pertaining to synthetic silicates and having magnesium as the predominant metal and an average
particle diameter in the range of 1 to 25 nm, and that the process has the further steps of:

Application No. 10/553,358

Docket No.: 0696-0224PUS1

Amendment dated January 21, 2009

Reply to Office Action of September 19, 2008

treating the formed stock with a cationic retention agent which is a cationic polymer
having a molecular weight of at least 500,000 g/mol, and
filtering and drying the treated stock to form said paper.